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ABSTRACT

This study evaluated a 2-year in-service teacher training project in the Belpre Middle School, Belpre, Ohio. The objectives of the program included a) the change of teachers' roles, in terms of perceptions, procedures, and morale, from those in self-contained classrooms to those in cooperative teaching teams; b) the increase of teachers' instructional ability as measured by their students on the Purdue Teacher Evaluation (PTE); and c) a comparison of the academic achievement of sixth- and eighth-grade students with the norm groups on the Iowa Tests of Basic Skills. The training program consisted of workshops and conferences with an emphasis on organizing and administering a continuous individual progress curriculum. Following the second year of the project, the PTE and the Purdue Teacher Opinionnaire (PTO) were administered to the 22 participants. Results showed that teacher morale, as measured by the PTO, improved for 11 teachers, remained unchanged for 8, and dropped for three. The PTE results showed an improvement in ratings for 6 teachers and a drop in rating for 15. Data from the 104 students who were given the Iowa Tests in the sixth and eighth grades showed that 36 gained less than the norm group, 7 gained at the same rate, and 61 gained more than the norm. It was concluded that the project was successful in helping to implement a continuous individual progress curriculum. (BRB)

ED 086670

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ESEA, TITLE III, PROJECT TERMINATION REPORT

PROJECT GIST (45-70-026)

BELPRE MIDDLE SCHOOL, BELPRE CITY SCHOOLS

BELPRE, OHIO

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Belpre City Schools
ESEA, Title III Project Termination Report Narrative
Project GIST (45-70-026-2)

Part II Narrative Section

A. Summary

Belpre's Project GIST had three main objectives during its two-year term, 1970-72: (1) through intensive in-service training of the Middle School teachers to change their role in terms of their perception, procedures, and morale from the self-contained classroom to a cooperative team-teaching role; (2) to show a significant difference in increased teacher teaching abilities as measured by students on the Purdue Teacher Evaluation; and (3) to compare the academic achievement of the sixth and eighth grades against norm groups on the Iowa Tests of Basic Skills. During the first year all of the 37 or 38 teachers for the student enrollment of 700 received training, but for the second year only the 25 teachers in the academic discipline participated.

In-service workshops were conducted in August, 1970 (three weeks), and August, 1971 (two weeks) by visiting and local consultants. The teachers were paid for their attendance. A series of 25 to 30 follow-up conferences were held during the two school years. Emphasis was placed upon organizing, administering, and teaching in innovative ways in the new setting to promote the development toward a continuous individual progress curriculum, via team teaching and implementation of non-gradedness, etc.

During the first year the evaluation techniques, other than for student achievement, were largely subjective -- observations and reports by the teachers, the principal, and supervisors. For the second year in addition the Purdue Teacher Opinionaire and the Purdue Teacher Evaluation Scale were administered as pre- and post-tests. On the P.T.O. which is designed to measure teacher morale, during the second year eight teachers improved by at least one stanine, eleven made no overall change in position, and the other three among the 22 who took both tests dropped in their stanine position. The "rapport" and "load" dimensions involved the greatest gains. On the PTES which is designed for student measurement of teacher teaching abilities, during the second year six teachers improved their standings as rated by their homeroom students while the other fifteen who were involved in both tests dropped in their ratings by homeroom (not necessarily their classroom) students. The data on eighth grade achievement testing indicate for the 104 students tested in both grades six and eight on the Iowa Tests of Basic Skills that 36 gained somewhat less than the normal growth, 7 gained at the normal rate (20 months for this period), and 61 eighth grade students had made more than the normal educational growth during the two-year period. Typical observations and reports indicated an improved interaction within the teaching team members and among teams involving exchange of ideas about student progress, instructional materials, techniques of teaching, the establishment of behavioral objectives with a view toward curriculum revision, etc.

It can be concluded that the Project GIST facilitated the working by the Middle School staff to implement innovations toward providing for a continuous individual progress curriculum. It has enabled the staff to face its problems more courageously and to work more effectively toward group solutions, and has caused more awareness to the needs and interests of the whole child.

It is recommended that:

(1) The program should be continued at the Middle School and coordinated with the innovative plans toward the same goal being conducted by the staffs of the two other elementary level schools (Levels K-4).

(2) Additional materials and equipment should be provided for meeting the needs of the varied learning levels among the enrollment.

(3) There should be increased efforts and opportunities to provide parent orientation to the philosophy and teaching-learning techniques and curriculum activities in the school(s). (This has been attempted already in 1972-73 through specific parent orientation sessions and the first of two series of parent conferences in connection with a new form of student reports.)

(4) Immediate planning should occur toward implementing at the high school at the earliest feasible time a more flexible curricular program, starting at the entry level. Recognition of and provision for a greater spread of achievement levels and rates of student progress in high school are essential to a successful continuation of reaching toward the basic goal. Mini courses should be designed also to meet specific learning skills which students have not yet reached upon getting to the high school.

(5) An intensive in-service program should be continued and expanded to include all levels in the district aimed at sensitizing teachers to student needs with emphasis placed upon teaching students how to learn and solve problems rather than on presenting subject matter per se.

B. Context Description

The project was developed for and executed in the Belpre Middle School. Nearly 700 students had transferred to the new facility from the two old schools in which these groups had been housed -- grades 5 and 6 from a community landmark with nearly a century of history. Both former schools had restrictive facilities for any but the traditional self-contained classroom programs. The problem was that of developing cooperative teacher action through integration of staff and their adaptation to a modern highly-flexible teaching-learning environment provided by the potential of the new facility and of a "Middle School" concept. Translated into operational terms, this concept suggests that the school is characterizied organizationally by flexibility, environmentally by sensitivity to changing needs, and instructionally by individualization.

The school houses all of the district's enrollment for the middle years. The district serves a small city of 8,000 and a narrow rural area to the north and west of the city. The children are from families of which at least 85% have annual incomes of over $3,000. The district is located in Washington County, Ohio. Marietta is the other city in the county and serves as the county seat. Belpre is connected by two bridges (in addition to the railroad freight bridge) to the city of Parkersburg, West Virginia, and the nearby industrial areas.

The Belpre City District schools were organized on a K-4, 5-8, and 9-12 grade basis in 1968-69 school year. Since November, 1970, the schools have been committed to work toward the individualization of instruction or continuous individual progress which will tend to break up the traditional gradedness, particularly in the schools below the high school level. There are two K-4 schools, each enrolling nearly 500 pupils. The Middle School population is nearly 800, and the high school cares for another 600 students plus those transported to the newly organized county vocational school. The school enrollment increases of the previous decade had leveled during the period of the project, and the district total has declined slightly for the current year.

The per pupil costs in the Belpre Schools for several years have tended to be about $100 below the state average. During the Title III project term the local per pupil costs rose above the $600 annual level. Because of recent increases in new industry valuations, the district had not sought to increase its property tax rates for general operation above its 1968 level of 21.85 mills until November, 1972. At that time an additional levy of 3.50 mills was defeated in the first trial by a 4% margin.

The starting point for the needs assessment coincided with that identified by the Ohio Department of Education in the area of teacher in-service among its listing of several critical needs in the schools of the state.

There was consensus of opinion by all local professional groups that a new or experimental attitude was needed by the staff to be open to innovative programs and practices, and that the project could have its greatest potential development among the Middle School staff in its new facilities. The local school staff realized its limitations, however, and needed to seek other professional assistance in the promotion of improved teaching-learning experiences. It recognized that innovative approaches were needed for its continual self-renewal and to provide incentive for updating the curriculum for relevancy.

There had been a limited program of general in-service for at least a year on innovative approaches. Enough progress or interest had been evidenced by the staff to realize the vast opportunity ahead toward involvement

in improving techniques and in individualizing the curriculum through personal and cooperative educational activities. Yet, it is in this combined area of in-service and curriculum development that recognized leaders in the Middle School movement have reported some of the biggest problems.

With limited time available to the local leadership, as well as limiting budget appropriations, extra funding was requested to conduct the GIST (Garnishing In-Service Training) proposal. While innovative for most parts of southeast Ohio, the project was perhaps conceived to be primarily an exemplary program for other schools and staffs, both locally and regionally.

C. Program Explanation

The local staff members who transferred to or were newly employed for the new Middle School represented a small cross-section of public school professionals. In the original group of thirty teachers and administrators, one held the Ph.D. degree, seven possessed the Masters' degree, and all others were college graduates (although five of these were to teach the next year with temporary certification). Four were beginning teachers; one was a second-year teacher. In the first full year of operation there, seven others with teaching experience were new to the Belpre Middle School. The median level of total teaching experience in the group was 12-3/4 years, with five of those in the Belpre schools. One third of the group had over 20 years' experience in the traditional type of classroom.

During the first year of the two-year project all 37 or 38 professional staff members participated, but during the second year major direct participation was limited to about 25 teachers associated with the academic discipline areas.

The three major objectives of the project as refined and clarified:

(1) Through intensive in-service training and actual participation during the regular school year, we hope to show a significant difference as measured by the Purdue Teacher Opinionaire (PTO) in teacher's morale.

(2) Through intensive in-service training and actual participation during the regular school year, we hope to show a significant difference in increased teacher teaching abilities as measured by students on the Purdue Teacher Evaluation Scale (PTES). (Pre and Post test.)

(3) One of our objectives is to compare academic achievement of the 6th and 8th grades against norm groups on the Iowa Tests of Basic Skills.

The main feature of the program was to involve the teachers in discussing, observing, and implementing innovative practices toward a change of attitudes and resultant improvement in the teaching-learning situations. Consultants were obtained to assist in final planning and in the execution of some of the project activities. In addition to an excellent keynote speaker for the three-weeks initial workshop in August, 1970, who projected the philosophy and concept of the Middle School movement, others followed who led discussions and rap sessions on organizing, administering, and teaching in the new setting -- as related to their own experiences. Some examples of in-service specifics were these: the changing relationships with parents; types and procedures for team-teaching; objectives and implamentation of non-gradedness; evaluation of the school program, and of the in-service project; roles of independent study and other learning environments; etc.

Continuity in the project was assured through scheduled conferences during the 1970-71 school year, followed by a two-week workshop in August, 1971, and further staff conferences during 1971-72. Consultants for the 1971 workshop assisted in developing Unipacs (learning activity packages in one form); use of closed circuit television (for both the in-service project and the on-going curricular program); and approaches to curriculum development in some disciplines.

Orientation of the program for other local district staff members, for students, for parents, and for other special visitors began soon. This aspect of the program was continued, reaching its greatest effectiveness even after the termination of the Title III project period.

Other part-time employees on a very limited excess basis included a secretary for typing and duplication, a custodian for some evening conferences, and the assistant clerk for the record keeping for audit purposes. Some mothers put in occasional hours as volunteer aides for typing and other areas of project activities. In addition to the administrative office personnel, the district provided one full-time secretary for teacher assistance, and the staff also utilized the help of four trainee-clerks assigned to the Middle School.

This report covers the school years 1970-72. At the time of writing this report, the basic program is continuing in the Middle School and the project has had significant influence upon the momentum of innovative teaching-learning situations in the two elementary schools. Its positive influence at the high school is being evidenced in a tardy initial response.

Representative teachers met three times during the first semester 1968-69 with central office administrators to make tentative plans for the program proposal submitted in early February, 1969. By the spring of 1969, notification was received of a project "hold for approval" until the 1970 fiscal year. This enabled a longer period of time to negotiate the formal proposal and plan for the initial August workshop.

All program activities were centered at the Belpre Middle School. Some of its flexible instructional environment potential can be sensed from this brief listing: Twelve classrooms have operable walls (opening to a minimum of three spaces); two other spaces are double-size classrooms; a large multi-purpose room with stage (and educational equipment storage area) is separate from the gymnasium; the six science rooms are lab-classrooms, with two separate project and/or project storage areas; a comprehensive instructional materials service center; two-teacher stations each for home economics and industrial arts; an art activity center.

The group in-service activities were conducted in the multi-purpose room. The initial three-week workshop activities which were cited earlier in this section of the report involved the staff in considering innovative aspects -- concepts, organization, procedures, team planning, curriculum approaches, and preparation for the opening day of classes. Thirteen conferences were held after school hours and one on a Saturday during the 1970-71 term. These involved orientation and open house for parents, need for modification of grading and reporting system, application of behavioral objectives, discussion of innovative in-service films, etc. The Saturday conference was devoted to a review of implementing the team-teaching approach and the non-graded school.

The activities of the two-weeks' workshop in August, 1971, included a workshop on the construction and use of "unipacs" and an introduction to the subject of interaction analysis, using both verbal and non-verbal categories. With the latter were demonstrations viewed by video taped recordings

of micro-teaching. Ten conferences were held during 1971-72 for all but the special area teachers, while the building council met bi-weekly to review the progress and recommend any changes. Orientation of parents continued, along with some involvement of parent volunteers in assisting the teacher teams as aides.

The local project funds were provided by the Title III, E.S.E.A., grant over the two-year period. These totaled nearly $49,000, of which $25,200 was expended during the first year. $40,000 of this total was paid for the local teachers over the two-years for the special in-service project activities during their extra-time work, including $2,600 which went from the Board's share of retirement payments, etc. A total of $1,000 was used in payment for services of all non-certificated local employees in connection with project activities. The cost of the professional consultants employed in the project was $4,650. Less than $3,500 was budgeted from project funds to cover the special materials such as professional library video tapes, duplicating process materials, etc. It should be noted that little administrative or supervisory costs (other than for evaluation consultation) were borne from the project budget. On the basis of the school enrollment, the per pupil cost during the two-year period of the project was $20.60. If the reader wishes more detailed budget information, the inquiry should be made to the Assistant Superintendent.

Summary of budget:	
Total federal support under E.S.E.A., Title III	$ 49,000.00
Total other federal support	$ 000.00
Total non-federal support (direct)	$ 250.00
Total project cost (exclusive of administration)	$ 49,250.00
Total evaluation cost (included above)	$ 1,405.00

D. Evaluation of Activities and Outcomes

The three major objectives of the project had been refined and clarified as follows for the final year's activities:

(1) Through intensive in-service training and actual participation during the regular school year, we hope to show a significant difference as measured by the Purdue Teacher Opinionaire (PTO) in teacher's morale.

(2) Through intensive in-service training and actual participation during the regular school year, we hope to show a significant difference in increased teacher teaching abilities as measured by students on the Purdue Teacher Evaluation Scale (PTES). (Pre and Post test.)

(3) One of our objectives is to compare academic achievement of the 6th and 8th grades against norm groups on the Iowa Tests of Basic Skills.

The techniques planned for use in evaluating the extent to which these objectives will be achieved are considered in two categories, process and product.

Process:

The process evaluation is designed to give immediate feedback to all concerned with the project. The process evaluation permits and encourages continuous evaluation and recycling. Many methods will be employed to do the evaluation. Some of these are: faculty meetings, a steering committee, meeting with parents, suggestions from the students and an outside evaluator to give an external measure to the project. The outside evaluator will evaluate the project 3 times during the school year based on a 5 point scale consisting of 30 questions. The questions will follow the same form as the Title III format. The evaluator will then give suggestions, if needed, on how the project could be strengthened.

Because of the type of instruments being used, PTO and PTES, their component scales will be used to help monitor the project's activities.

In addition, an evaluation of the in-service training program will be continued similarly to the use of teacher opinionaires obtained during the previous year.

Also, the materials created for instruction, such as Unipacs, through a sampling process, would be sent to "experts" in this field for criticism.

Likewise, through school initiated efforts to obtain feedback from parents and the broader community, another source for the feel of success or failure of the project procedures and activities will be tapped.

The interim schedule for each of the three convenient segments of the year's activities by the staff will be considered in relation to process evaluation. Bench marks of the teaming action, for example, will be noted in terms of extent of changes and further outcomes.

Product:

The product evaluation is designed to judge whether the objectives were met.

(1) Measurement of Objective #1

The P.T.O. was administered to 22 teachers twice, once in September, 1971, and again in late April, 1972. The PTO is designed to measure teacher morale. Not only does the Opinionaire yield a total score indicating the general level of a teacher's morale, but it also provides meaningful factors or subscores which break down morale into some of its dimensions. These dimensions are:

1. Teacher Rapport with Principal
2. Satisfaction with Teaching
3. Rapport among Teachers
4. Teacher Salary
5. Teacher Load
6. Curriculum Issues
7. Teacher Status
8. Community Support of Education
9. School Facilities and Services
10. Community Pressures

The results of the Purdue Teacher Opinionaire are attached. The improvement for the second testing represented 90 points in the combined total scores of the 22 teachers. This is less than one stanine of growth per teacher for the average. It should be noted that these tests were administered after the program had been underway for one full year; therefore, it would not be expected that the improvement be as significant as if tested prior to the project and at its end. The dimensions of greatest gain, as based on the tests, were "teacher rapport with principal", "teacher load", and "rapport among teachers". Eight teachers improved by at least one stanine, eleven made no overall change in position, and three dropped in their stanine position for the whole test.

(2) Measurement of Objective #2

The PTES is designed for students' evaluation of their teachers. Some major areas of concentration deals with (1) how students evaluate the teacher's teaching methods, (2) how students assess the learning environment in the teacher's classroom, (3) how students feel about their relationship with a teacher, (4) how a teacher's evaluation profiles compares with the profile of other teachers, and (5) where a teacher can begin a personal program of self-improvement and development.

The scores will be reported on a group basis, and each teacher will have his own profile sheet.

The teachers were evaluated by the students twice during the school year to see if there were a significant difference in the two scores.

The results of the Purdue Teacher's Evaluation Scale - Form A are attached as reported in a percentile Norm Profile Chart. Six teachers improved their standings as rated by their homeroom students, while the other fifteen (only 21 were in involved in both tests) dropped in their percentile ratings by the homeroom students. As a group there was less of a percentile drop in the areas of "Teaching Methods and Procedures", "Subject Matter Orientation", and "Student-teacher Communication" than the others. It should be noted that in these tests students were rating only their homeroom teacher, and also that homeroom enrollments were shifted substantially in mid-year during a shuffle of teacher schedules. Likewise, it is suspected that pupil interest levels in school activities, per se, may not be the same in April as in September of any given school year.

(3) Measurement of Objective #3

This objective will be measured using a simple X^2 test. Comparing 6th and 8th grades against previous 6th and 8th grades on the ITBS. If a significant difference is found, a stronger statistical test will be used such as the t-test.

In measurement of objective #3 and X^2 test was used comparing the 1972 sixth and eighth grades with the 1970 sixth and eighth grades on the Iowa Tests of Basic Skills. The Grade 8 report is listed first:

Grade 8 - Group "A" - 1970

The grades being compared is the present 8th grade with the 8th grade of <u>two</u> years ago.

Score	f	ΣX	ΣX^2	Score	f	ΣX	ΣX^2	Score	f	ΣX	ΣX^2	Score	f	ΣX	ΣX^2
118	1	118	13924	100	3	300	30000	85	5	425	36125	71	3	213	15123
114	2	228	25992	99	1	99	9801	84	2	168	14112	70	3	210	14700
113	1	113	12769	98	3	294	28812	83	3	249	20667	69	3	207	14283
112	2	224	25088	97	1	71	9409	82	1	81	6724	68	3	204	13872
110	2	220	24200	96	4	384	36864	81	3	243	19683	67	1	67	4489
109	3	327	35643	95	3	285	27075	80	1	80	6400	66	1	66	4356
108	1	108	11664	94	1	94	8836	79	5	395	31205	65	3	195	12675
107	1	107	11449	93	2	186	19298	78	2	156	12168	64	7	448	28672
106	3	318	33708	91	6	546	49686	77	2	154	11858	63	4	252	15876
105	1	105	11025	90	6	540	48600	76	4	304	23104	62	1	62	3844
104	5	520	54080	89	5	445	39604	75	2	150	10250	58	1	58	3364
103	1	103	10609	88	5	440	38720	74	3	222	16428	57	2	114	6498
102	3	306	31212	87	2	174	15138	73	3	219	15987	56	1	56	3136
101	2	202	20402	86	6	516	44376	72	3	216	15552	54	1	54	2916

N = 149 for group "A" - Gr. 8 - 1970
ΣX = 12756 for group "A" - Gr. 8 - 1970
$\overline{X}$ = 86 for group "A" - Gr. 8 - 1970
ΣX^2 = 1,112,051 for group "A" - Gr. 8 - 1970

Grade 8 - Group B - 1972

Score	f	ΣX	ΣX^2	Score	f	ΣX	ΣX^2	Score	f	ΣX	ΣX^2
113	1	113	12769	91	1	91	8281	72	1	72	5184
111	1	111	12321	90	6	540	48600	71	1	71	5041
110	1	110	12100	89	1	89	7921	70	4	280	19600
109	3	327	35643	88	1	88	7744	69	5	345	23805
108	1	108	11664	87	6	522	45414	68	2	136	9248
107	1	107	11449	86	1	86	7396	67	2	134	8978
106	2	212	22472	85	3	255	21675	66	1	66	4356
105	4	420	44100	84	1	84	7056	65	2	130	8450
103	4	412	42436	83	3	249	20667	62	2	124	7688
102	2	204	20808	82	1	82	6724	61	1	61	3721
101	2	202	20402	81	8	648	52488	60	4	240	14400
100	1	100	10000	80	4	320	25600	58	1	58	3364
99	3	297	29403	79	3	237	18723	57	2	114	6498
98	2	196	19208	78	5	390	30420	56	2	112	6272
97	2	194	18818	77	2	154	11858	55	1	55	3025
96	1	96	9216	76	4	304	11552	53	1	53	2809
95	3	285	27075	75	2	150	11250	51	1	51	2601
94	4	376	35344	74	4	296	21904	45	1	45	2025
93	6	558	51894	73	3	219	15987				
92	3	276	25392								

N = 140 for Group B - 1972
X = 11,655 for Group B - 1972

$\bar{X}$ = 83 for Group B - 1972
X^2 = 990,839 for Group B - 1972

Grade 8 - Group A & B

Explanation of Statistics

N = A: Number of students in group A = 149
B: " " " " " B = 140

ΣX = Sum of the scores in each group A: 12,756
B: 11,655

$\bar{X}$ = Mean of each group. Divide (sum of scores) by N
A: 12756 149 = 86
B: 11655 140 = 83

ΣX^2 = The squares of each score then summed
A: 1,112,051
B: 990,839

Formulas: $$S^2 = \frac{\Sigma X^2 - (\Sigma X)^2/N_1 + \Sigma X^2 - (\Sigma X)^2/N_2}{N_1 + N_2 - 2}$$

S^2 = Variance

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{S^2/N_1 + S^2/N_2}}$$

t = t distribution

Variance

$$S^2 = 1112051 - (12756)^2/149 + 990839 - (11655)^2/140$$

$$149 + 140 - 2$$

$$= 112051 - \frac{1276^2}{149} + 990839 - \frac{11655^2}{140}$$

$$= 141.57$$

The t ratio is then

$$t = \frac{86 - 83}{\sqrt{141.57/140 + 141.57/149}}$$

$$t = \frac{3}{1.40}$$

$$t = 2.14$$

The number of degrees of freedom in this example is 149 + 140 - 2 or 287. For 287 degrees (on table nearest to 300) a t equal to 1.97 is required for significance at the .05 level.
In this group t = 2.14 (1.97 is required for significance.)

Grade 6 - Group "A"

The group being compared is the present 6th grade 1972 with 6th grade of two years ago (1970).

Score	f	ΣX	ΣX^2	Score	f	ΣX	ΣX^2	Score	f	ΣX	ΣX^2	Score	f	ΣX	ΣX^2
89	2	178	15842	74	1	74	5476	62	5	310	19220	50	3	150	7500
86	1	86	7396	73	4	292	21316	61	3	183	11163	49	2	98	4802
85	2	170	14450	72	2	144	10368	60	5	300	18000	48	4	192	9216
83	1	83	6889	71	2	142	10082	59	3	177	10443	47	8	376	17672
82	2	164	13448	70	8	560	39200	58	4	232	13456	46	3	138	6348
81	3	243	19683	69	6	414	28566	57	3	171	9747	45	2	90	4050
80	2	160	12800	68	2	136	9248	56	5	280	15680	42	1	42	1764
79	5	395	31205	67	4	268	17956	55	2	110	6050	44	1	44	1936
78	4	312	24336	66	2	132	8712	54	3	162	8748	42	2	84	3528
77	2	154	13858	65	4	260	16900	53	5	265	14045	40	1	40	1600
76	5	380	28880	64	4	256	16384	52	3	156	8112	33	1	33	1089
75	4	300	22500	63	4	252	15876	51	2	102	5202	-	-	-	-

N = 146 for Group A - Gr. 6 - 1972
X = 9248 for Group A - Gr. 6 - 1972

$\overline{X}$ = 63 for Group A - Gr. 6 - 1972
X^2 = 610,742 for Group A - Gr. 6 - 1972

Grade 6 - Group "B" - 1970

Score	f	ΣX	ΣX^2	Score	f	ΣX	ΣX^2	Score	f	ΣX	ΣX^2	Score	f	ΣX	ΣX^2
98	1	98	9604	81	5	405	32805	66	4	264	17424	52	3	156	8112
97	1	97	9409	80	2	160	12800	65	3	195	12675	51	4	204	10404
96	1	96	9216	79	2	158	12482	64	4	256	16384	50	6	300	15000
95	1	95	9025	78	7	546	42588	63	3	189	11907	49	7	343	16807
93	1	93	8649	77	3	231	17787	62	4	248	15376	48	3	144	6912
92	2	184	16928	76	4	304	23104	61	5	305	18605	47	2	94	4418
91	1	91	8281	75	6	450	23750	60	2	120	7200	46	2	92	4232
88	2	176	15488	74	3	222	16428	59	3	177	10443	45	2	90	4050
87	1	87	7569	72	3	216	15552	58	5	290	16820	43	1	43	1849
86	1	86	7396	71	6	426	30246	57	4	228	12996	42	2	84	3528
85	1	85	7225	70	6	420	29400	56	4	224	12544	41	1	41	1681
84	3	252	21168	69	3	207	14283	55	6	330	18150	38	1	38	1444
83	4	332	27556	68	1	68	4624	54	3	162	8748	37	1	37	1369
82	3	246	20172	67	4	268	17956	53	4	212	11236				

N = 167 for Grade 6 - Group B - 1970
ΣX = 10965 for Grade 6 - Group B - 1970

$\overline{X}$ = 66 for Grade 6 - Group B - 1970
ΣX^2 = 751,805 for Grade 6 - Group B - 1970

Grade 6 - Group A & B

Explanation of Statistics

N = A: Number of students in Group A = 146
B: Number of students in group B = 167

ΣX = Sum of the scores in each group - A: 9248
B: 10965

$\bar{X}$ = Mean of each group. Divide (sum of scores) by N
A: 9248 ÷ 146 = 63
B: 10965 ÷ 167 = 66

ΣX^2 = The squares of each score then summed
A: 610742
B: 751805

Formulas: $$S^2 = \frac{\Sigma X^2 - (\Sigma X)^2/N_1 + \Sigma X^2 - (\Sigma X)^2/N_2}{N_1 + N_2 - 2}$$

S^2 = Variance

$$t = \frac{\bar{X} - \bar{X}_2}{\sqrt{S^2/N_1 + S^2/N_2}}$$

t = t distribution

Variance

$$S^2 = \frac{610742 - (9248)^2/146 + 751805 - (10965)^2/167}{146 + 167 - 2}$$

$$= \frac{610742 - (9248)^2/146 + 751805 - (10965)^2/167}{311}$$

$$= \frac{24951 + 31858}{311}$$

$$= 182.67$$

The t ratio is then

$$t = \frac{63 - 66}{\sqrt{182.67/146 + 182.67/167}}$$

$$t = \frac{-3}{1.53}$$

$$t = -1.96$$

The number of degrees of freedom (df) in this example is 146 + 167 - 2 or 311. For 287 degrees of freedom (on table is nearest to 300) a t equal to 1.97 is required for significance at the .05 level.

In this group $t = -1.96$.

Eighth Grade Gains

This report is available on the growth made by those 104 students in grade 8 who had been tested locally by a second form of the Iowa Tests of Basic Skills while enrolled in grade 6. This standardized test battery measures the basic skills of vocabulary meanings, reading understanding, language (spelling, capitalization, punctuation, usage), work-study skills (map-reading, reading graphs and tables, alphabetizing, use of an index, use of dictionary), and concepts and problem solving in Mathematics.

Number of Students that Gained
in Months from Grade 6 to 8

5-10 months, 1; 11-15 months, 13; 16-19 months, 22; 20 months, 7; 21-26 months, 42; more than 26 months, 19; total students tested, 104.

The data indicate that 36 students gained somewhat less than the normal growth, 7 gained at the normal rate (20 months for this period) and 61 eighth grade students have made more than the normal educational growth during the past two years.

The following data were obtained during one year from mathematics tests in all the grades:

Middle School
Number of Students that Gained during 1971-72

Mathematics Test: Less than 5 months, 5-10 months, 11-15 months, 16-21 months, more than 21 months, total number students tested, in order:

Grade 5, 42, 46, 40, 32, 13, 173.
Grade 6, 33, 48, 37, 29, 20, 167.
Grade 7, 32, 42, 32, 40, 41, 187.
Grade 8, 20, 32, 31, 30, 33, 146.

The data above represent a summary obtained through use of the standardized Stanford Achievement Tests administered for mathematics near the beginning and near the end of the 1971-72 school year. (A normal gain would be eight months in this case.)

These figures indicate that about 60 fifth graders gained somewhat less than normal, and that about 113 fifth graders gained at or somewhat above the normal rate of educational growth in the three tested areas of computation, concepts and applications. For the sixth grade, about 52 students gained somewhat less than normal, and about 115 gained at or somewhat above the normal rate. For the seventh grade, about 49 gained somewhat less than the normal, and about 138 gained at or somewhat above the normal rate. For the eighth grade, about 33 students gained somewhat less than the normal, while 113 gained at or somewhat above the normal gain of eight months according to the results of the standardized tests for mathematics. (Mathematics was the only subject area in which all students were tested in this manner in each of the grades 5-8 of the Middle School this year.)

In addition, a summary report on months gained in one of the several other areas tested by standardized Stanford Achievement Tests administered near the beginning and near the end of the 1971-72 school year follows:

Language - Grade 7 (175 students tested)
63 students gained less than 5 months in grade placement; 33 students gained 5 to 10 months; 34 gained 11-15 months; 24 gained 16-21 months;

and 21 gained more than 21 months. These figures indicate that 75-80 seventh graders gained somewhat less than normal and that 95-100 seventh graders gained at or somewhat above the normal rate of educational growth in the five areas of language tested: punctuation, capitalization, usage, dictionary skills, and sentence sense.

In process evaluation, an opinionaire was used with the participating teachers on the values of the August workshop activities. Since the 1970 opinionaire results were reported in the Continuation Grant application, only the 1971 results are reported here. (A copy is attached.) The rating levels tended to drop from "excellent" and/or "good" for the unipac workshop to the quality of demonstrations viewed by video taped recordings of micro-teaching. (The subject of Interaction Analysis will need to be dealt with later in greater detail as in-service.) Of significant value was their relatively high rating of "the time allotted for team planning and organizing for curriculum needs to open school".

For the second (final) year of the project, John A. Hilderbrand of the Evaluation Center, College of Education, The Ohio State University, was retained to assist with the evaluation. The first project visitation was made by him on December 16, 1971. A copy of his report is attached. It indicated that the program activities and evaluation techniques and procedures used appeared satisfactory. In the second visitation on February 23, 1972, the evaluator was accompanied and assisted by three associates. The report received was given as the average of the four opinions, although the other three persons were not as familiar with the project. A copy of this report is attached. Overall, the checklist evaluation by the group was still satisfactory, although the supplementary information indicated some specific needs in appropriate level decision-making responsibilities.

Also, provision was made for some evaluation of the unipac units being constructed by the project participating teachers. This was done at mid-year for some of the learning units constructed earlier during that first-semester learning experience by the teachers. A six-member team from among the staff of Tower Heights Middle School, Centerville City Schools, Centerville, Ohio, evaluated ten unipacs from among the several Belpre teams. A copy of the evaluation instrument is attached. The individual unipac ratings varied considerably, with some marked consistently at 4 or 5 on the 1-5 scale (with 5 excellent), while one or two were considered "just a worksheet" by the evaluators, who made basic recommendations for improvements to meet the criteria for a learning "package".

All teacher participants were requested to fill out a three-page questionnaire as a final report on the project, having a thirty-day period before the filing deadline. (Copy attached.) One of the principal kinds of data sought involved benchmarks for improving instruction or progressing toward individual continuous progress. Typical replies indicated an improved interaction within the teaching team members and among teams involving change of ideas about students, materials, techniques of teaching, etc.; much progress in gaining confidence toward students going to the library in search of resource materials; increase in number of students voluntarily using lunch period and after school hours for extra work on pupil projects; satisfactory progress in the writing of behavioral objectives with a view toward curriculum revision; revision of the reporting and grading system.

This school has been serving since the beginning of project G.I.S.T. as a model school for the middle school philosophy for much of southeastern Ohio and

western West Virginia. Visitors from Rio Grande, Ohio University and Marietta colleges of education have observed or studied the local program, as have many teachers and administrators from the region visited the school.

In answer to the query of "impact as you have seen it of Title III, E.S.E.A. (G.I.S.T.) ---" the consensus was that it had brought about change faster in the program; it had increased the interaction among teachers and between teacher and pupil; it provided more direct contact with professionals outside the school district and has opened up alternative routes of action; it has enabled teachers to face up to problems, and to work more effectively toward group solutions; it has facilitated the school staff to become more unified in its goals and refine the school philosophy; it has caused more inclination to be aware of the needs and interests of the whole child and less inclination to impose the teachers' views upon him; and "has in general created a new enthusiasm for both teachers and students".

Another impact of the project was the action taken by the participating teachers near the end of the two-year period to establish a "Program of progress" for the ensuing year. This commitment touched such areas as professional reading, pre-school planning, meeting schedules, parent orientation, news releases, setting of goals by teachers for themselves and for their teams, and evaluation of that year's progress.

The chief teacher concerns in continuing the thrust of the project to fully implement the individual continuous progress goal centered around (1) the district's ability (or commitment) to provide sufficient learning materials for the varied levels of student needs and interests; (2) the need for continuing improvement in communications -- among teachers and with both administration and parents; (3) the need for additional aides to assist in providing more small group instruction; (4) interest in obtaining additional team planning time in the daily schedule; (5) opportunities being provided to continue cooperatively revising the curriculum; and (6), last but not least, the problem of pupil adjustment upon leaving the Middle School and entering the ninth grade at the high school.

E. Dissemination

Project dissemination activities were broken into two areas: professional and public. The professional section received greater emphasis during the project, with activities centered around district staff meetings and bulletins or newsletters, talks at other schools, and visits by school professionals from other communities. A minimum of 135 persons from outside the project area visited with the staff each year to discuss the local program.

The dissemination function has been served also through responses to numerous unsolicited requests for information about the project, its activities, and its objectives. Inasmuch as the dissemination has been handled within the framework of the general administrative work for the district, the cost has been minimal.

The public dissemination activities were those directed to newspapers, radio, T.V., open house for parents, talks at various civic organizations, etc. During the last year of the project a local weekly newspaper was available in the community to supplement the three dailies that have general circulation in the area.

F. Recommendations

On the basis of the progress made during the two-year period of the Garnishing In-Service Training project with the staff and pupils of the Belpre Middle School, the author(s) of this report recommend that:

(1) The program should be continued at the Middle School and coordinated with the innovative plans toward the same goal being conducted by the staffs of the two other elementary level schools (Levels K-4).

(2) Additional materials and equipment should be provided for meeting the needs of the varied learning levels among the enrollment.

(3) There should be increased efforts and opportunities to provide parent orientation to the philosophy and teaching-learning techniques and curriculum activities in the school(s). (This has been attempted already in 1972-73 through specific parent orientation sessions and the first of two series of parent conferences in connection with a new form of student reports.)

(4) Immediate planning should occur toward implementing at the high school at the earliest feasible time a more flexible curricular program, starting at the entry level. Recognition of and provision for a greater spread of achievement levels and rates of student progress in high school are essential to a successful continuation of reaching toward the basic goal. Mini courses should be designed also to meet specific learning skills which students have not yet reached upon getting to the high school.

(5) An intensive in-service program should be continued and expanded to include all levels in the district aimed at sensitizing teachers to student needs with emphasis placed upon teaching students how to learn and solve problems rather than on presenting subject matter per se.